Message

From: Valentino, Michael [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=29CCD101653E4A5FAE2273A9AE9F7BD0-MVALENTI]
Sent: 5/4/2017 9:08:53 PM
To: Bell, Nathan [NBELL@idem.IN.gov]
CC: Cunningham, Michael [/o=ExchangeLabs/ou=Exchange Administrative Group (FYDIBOHF23SPDLT)/cn=Recipients/cn=0ce197b42b574909995fe91bdfe04ba6-MCunning]
Subject: RE: Information from IDEM OAQ Permits regarding Tradebe Treatment and Recycling LLC
Attachments: Tradebe_Air Emissions_Mass Balance_5-4-17.docx

Nathan,

Thanks again for the help. Can you review – at your leisure – the attached and let me know your thoughts? I'd feel better about my calculations running it past you.

Also, the Permit requires Tradebe to do a flare performance test in accordance with 40 CFR 60.18 every 5 years. Do you have a pdf.copy of that report or a link to an e-copy I can review?

Sincerely,
Michael

From: Bell, Nathan [mailto:NBELL@idem.IN.gov]
Sent: Wednesday, May 03, 2017 12:35 PM
To: Valentino, Michael <Valentino.Michael@epa.gov>
Cc: Cunningham, Michael <cunningham.michael@epa.gov>; Lee, Jae <lee.jae@epa.gov>
Subject: RE: Information from IDEM OAQ Permits regarding Tradebe Treatment and Recycling LLC

Michael,

Below are answers to your questions.

1. If FL1 exceeded its 23.4 TPY limit as the screen capture shows 27.21 TPY calculated from the flare for 2015 (my table from my first email shows 28.8 TPY). Would this be a violation?

   Answer: Without doing a lot of research into the screen capture data that you cite, I would say that this is not necessarily a violation. This is because emissions from the flare FL1 could be coming from either (or both) VRU and VRU II. Without knowing what portion of the VOC came from VRU and what portion came from VRU II, I don't we can definitively say that there was a violation based on the screen capture data that you cited.

2. So I understand correctly, SDS II has a total emission rate of 95.6 TPY for VOCs which includes VRU II (which vents to the flare, FL1), but the 23.4 TPY VOC for FL1 only applies to the (controlled) VOCs from VRU I (serving SDS I), correct? VRU II emissions are grouped into the overall 95.6 TPY figure?

   Answer: Yes, I think you understand it correctly. Just to clarify, the 95.6 TPY and 23.4 TPY are not emission rates but emission limits. The limits apply to the emission units/processes, but these emission units/processes use flare FL1 to comply with the limits.

3. Your discussion of emission calculations and attached data/information.

   Answer: It seems like you know what you are doing when it comes to calculating emissions and other related parameters/variables. However, I did not review your calculations, attachments, or table screen shot. If you really need me to review this information, please let me know.

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From: Valentino, Michael [mailto:Valentino.Michael@epa.gov]
Sent: Wednesday, May 03, 2017 12:56 PM
To: Bell, Nathan <NBELL@idem.IN.gov>
Cc: Cunningham, Michael <cunningham.michael@epa.gov>; Lee, Jae <lee.jae@epa.gov>
Subject: RE: Information from IDEM OAQ Permits regarding Tradebe Treatment and Recycling LLC

Nathan,

This is extremely helpful. Thank you for providing such detailed and helpful information in such a short time!

I have a lot to pour through but did want to ask if FL1 exceeded its 23.4 TPY limit as the screen capture shows 27.21 TPY calculated from the flare for 2015 **PBI / Ex. 4**. Would this be a violation?

So I understand correctly, SDS II has a total emission rate of 95.6 TPY for VOCs which includes VRU II (which vents to the flare, FL1), but the 23.4 TPY VOC for FL1 only applies to the (controlled) VOCs from VRU I (serving SDS I), correct? VRU II emissions are grouped into the overall 95.6 TPY figure?

To answer your question, yes I did use the IGL to derive flare vent gas density (= PM/RT), and also relied on the two attached documents provided to me by Region 5 Air Division. **PBI / Ex. 4**
PBI / Ex. 4

Here is the vent gas summary table I compiled. I did a weighted average calculation of monthly volumetric flowrates and monthly VOC concentrations from the attached Excel spreadsheet to derive HC concentration (ppmw) for each of the years 2013-2015 (again, this is in the first table I included below). **PBI / Ex. 4**

PBI / Ex. 4

PBI / Ex. 4

I calculated FL1 stack emissions by: uncontrolled VOC to flare (lb/hr) * (1 Ton/2000 lb) * (hours of operation/for a given year) * (1-0.98) at 98% DRE. For 99% DRE, the last term is (1-0.99), which halves the emission rate (controlled) as that for 98% DRE.

I will likely have follow-up questions.

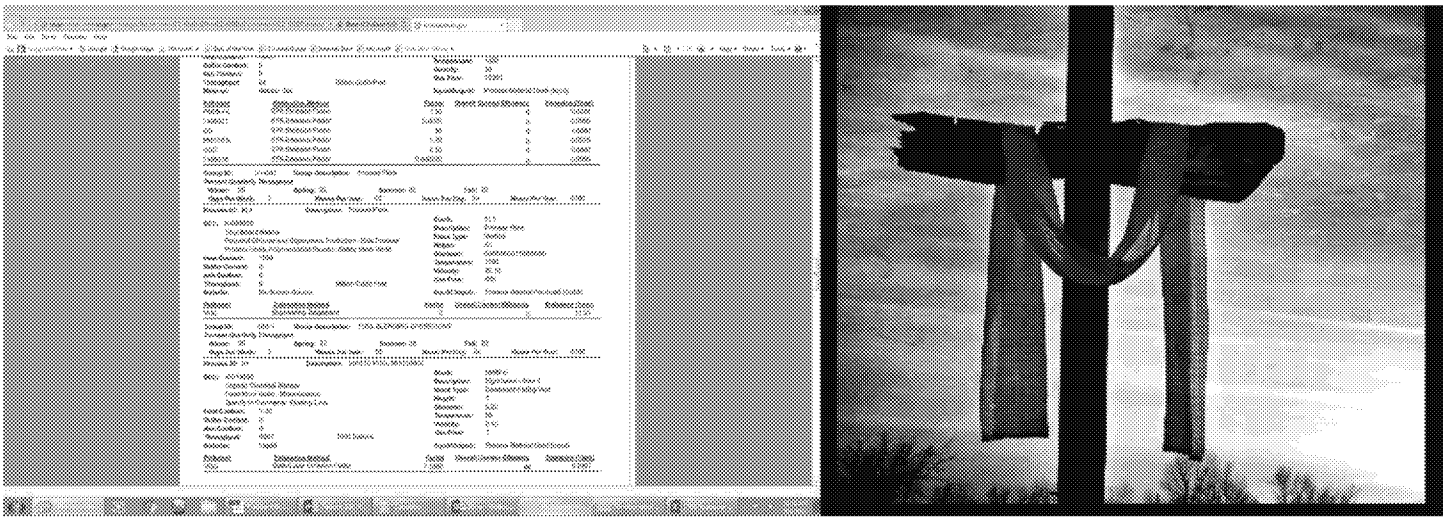
Again, Region 5 is indebted.

Sincerely,
Michael

PBI / Ex. 4

[1] PBI / Ex. 4

[2] PBI / Ex. 4



From: Bell, Nathan [mailto:NBELL@idem.IN.gov]
Sent: Wednesday, May 03, 2017 11:12 AM
To: Valentino, Michael <Valentino.Michael@epa.gov>
Cc: Cunningham, Michael <cunningham.michael@epa.gov>; Lee, Jae <lee.jae@epa.gov>
Subject: RE: Information from IDEM OAQ Permits regarding Tradebe Treatment and Recycling LLC

Michael,

I case it helps, here is the process flow diagram for the SDS II and VRU II process that was provided by Tradebe to IDEM OAQ back in 2014 in a permit application.

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From: Bell, Nathan
Sent: Wednesday, May 03, 2017 12:10 PM
To: 'Valentino, Michael' <Valentino.Michael@epa.gov>
Cc: Cunningham, Michael <cunningham.michael@epa.gov>; Lee, Jae <lee.jae@epa.gov>
Subject: RE: Information from IDEM OAQ Permits regarding Tradebe Treatment and Recycling LLC

Michael,

Below are answers to your questions.

1. Are the two solids distillation systems served by separate vapor recovery units which vent to a single flare (FL1)? I could not find a separate flare for SDS II, which came on line in 2015.

   Answer: Yes, I think so (that is how the emission unit description is written).

2. Is the 12-month rolling average emissions limit for the flare 23.4 TPY for both SDS I and SDS II combined?

   Answer: No, I think it is just for SDS (which you refer to as "SDS I"). Compliance with this limit (Condition D.1.1(b) and D.1.3(b)) is determine using the equation in Condition D.1.11.

3. At Section D.1.11, pg. 43 of 81, how is EF_{VRU} (VOC uncontrolled emission factor for SDS VRU) determined?

Answer: I would think that the value of EF_{VRU} could change depending on the type of materials processed. However, the potential to emit (PTE) calculations (see Adobe pdf pages 695 through 697 which correspond to Pages 5 through 7 of 24 of the TSD Appendix A Emission Calculations) were based on VRU sampling/testing that was performed by Tradebe in December 2013. PBI / Ex. 4

PBI / Ex. 4

4. I ran some calculations (see below summary table) based on 98% and 99% DRE for the flare. Did I err someplace?

   Answer:
   - It looks like the "VOC COMBUSTED (LBS)" was based on the uncontrolled VOC emission factor for the VRU of 212.61 lbs VOC/ton of feedstock material processed (see Answer #3 above).
   - It looks like the "VOC COMBUSTED (FT3)" was based on the assumption of 0.076 lbs VOC/ft3 VOC. I assume that is an average VOC density and it is based on the Ideal Gas Law (either calculated or published data) assuming the site-specific temperature and pressure of the VOC gas stream.
   - I can't verify the "Wt. Avg. VOC (PPMW)" data. Hopefully it was calculated using the Ideal Gas Law at the site-specific temperature and pressure. This type of calculation can be tricky because volume percent is not the same as weight percent.
   - I think the "VOC ER (98% DRE)" and "VOC ER (99% DRE)" were calculated correctly.

5. Can you confirm that the system-wide (i.e., all emission points) for SDS II is 95.6 TPY for 12 consecutive months? However, included in this is the SDS II emissions through the common flare (FL1), correct? In the equation at D.1.10, is not $V_{VRU\ II}$ the controlled VOC emissions from SDS VRU II, which is sent to the flare (or carbon back-up)?

   Answer: I would assume that Tradebe calculates SDS II actual emissions after control by flare FL1. Yes, $V_{VRU\ II}$ is the VOC emissions after control from SDS VRU II, which is controlled by the flare (or carbon back-up).

   I cannot confirm (i.e., certify) whether the actual emissions from the SDS II have been less than 95.6 TPY for every 12 consecutive month period since it was constructed. Only Tradebe can certify there data is truthful and accurate. The only data that I have readily available to me is in the IDEM Virtual File Cabinet (VFC): https://vfc.idem.in.gov/DocumentSearch.aspx. I could not find any recent quarterly 12-month emission reports (from May 2016 to March 2017); therefore, the reports were either submitted/received and have not yet been scanned into VFC, or Tradebe did not submit the reports (or they were lost in the mail). For the reports that I did find, Tradebe reported that the actual emissions from the SDS II have been less than 95.6 TPY for each 12 consecutive month period reported.

12-Month Periods Reported	Link to Submitted Emission Report
May 2014 – April 2015 June 2014 – May 2015 July 2014 – June 2015	https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=80105470&dDocName=80105690&Rendition=web&a
Aug 2014 – July 2015 Sept 2014 –	Data Missing or Lost? https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=80168578&dDocName=80168530&Rendition=web&a

Aug 2015 Oct 2014 – Sept 2015	
Nov 2014 – Oct 2015 Dec 2014 – Nov 2015 Jan 2014 – Dec 2015	https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=80228592&dDocName=80228392&Rendition=web&a
Feb 2015 – Jan 2016 March 2015 – Feb 2016 April 2015 – March 2016	https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=80289509&dDocName=80289189&Rendition=web&a

In VFC, I also found the Annual Emission Reporting (Submitted July 1, 2016):
https://ecm.idem.in.gov/cs/idcplg?IdcService=GET_FILE&dID=80321469&dDocName=80321129&Rendition=web&allowInterrupt=1&noSaveAs=1&fileName=80321129.pdf

Most of Tradebe's scanned documents are archived under Agency Interest ID 11560:
https://vfc.idem.in.gov/DocumentSearch.aspx?xAIID=11560

There are a few scanned documents are archived under Agency Interest ID 108188 and 25421:
https://vfc.idem.in.gov/DocumentSearch.aspx?xAIID=108188
https://vfc.idem.in.gov/DocumentSearch.aspx?xAIID=25421

Let me know if you need anything else or would like to further discuss any issues over email/telephone.

Thank you.

Nathan Bell
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From: Valentino, Michael [mailto:Valentino.Michael@epa.gov]
Sent: Wednesday, May 03, 2017 8:41 AM
To: Bell, Nathan <NBELL@idem.IN.gov>
Cc: Cunningham, Michael <cunningham.michael@epa.gov>; Lee, Jae <lee.jae@epa.gov>
Subject: RE: Information from IDEM OAQ Permits regarding Tradebe Treatment and Recycling LLC
Importance: High

Nathan,

Thank you for your response and for the links provided. I am in Region 5 Land and Chemicals, RCRA Branch, and am assisting Permits (Jae Lee) and EPA OECA/ORCR in assessing the Tradebe SDS in comparison to other thermal desorption units in Region 6.

Can you please clarify some points for me regarding the Title V limits for SDS I and SDS II? Please see attached excerpt from the Title V permit, and can you answer several questions which would be helpful to EPA RCRA?

Are the two solids distillation systems served by separate vapor recovery units which vent to a single flare (FL1)? I could not find a separate flare for SDS II, which came on line in 2015.

Is the 12-month rolling average emissions limit for the flare 23.4 TPY for both SDS I and SDS II combined?

At Section D.1.11, pg. 43 of 81, how is EF_{VRU} (VOC uncontrolled emission factor for SDS VRU) determined?

I ran some calculations (see below summary table) based on 98% and 99% DRE for the flare. Did I err someplace?

Can you confirm that the system-wide (i.e., all emission points) for SDS II is 95.6 TPY for 12 consecutive months? However, included in this is the SDS II emissions through the common flare (FL1), correct? In the equation at D.1.10, is not $V_{VRU\ II}$ the controlled VOC emissions from SDS VRU II, which is sent to the flare (or carbon back-up)?

PBI / Ex. 4

PBI / Ex. 4

PBI / Ex. 4

PBI / Ex. 4

We appreciated any help you and your staff can provide, Nathan. Thank you.

Sincerely yours,
Michael Valentino

Michael Valentino
Environmental Engineer/Senior RCRA Inspector
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From: Bell, Nathan [mailto:NBELL@idem.IN.gov]
Sent: Tuesday, May 02, 2017 4:25 PM
To: Valentino, Michael <Valentino.Michael@epa.gov>
Cc: Bell, Nathan <NBELL@idem.IN.gov>
Subject: Information from IDEM OAQ Permits regarding Tradebe Treatment and Recycling LLC

Mr. Michael Valentino,

Hi, this is Nathan Bell from the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ), Permit Branch. I got your voicemail last Friday. Sorry, I was not able to get back to you sooner.

For the past three (3) years, I have been the section chief of the section that issues permits to Tradebe Treatment and Recycling LLC (herein referred to as Tradebe), located at 4343 Kennedy Avenue, East Chicago, Indiana 46312.

In 2014 and 2015, I reviewed a couple source/permit modifications for Tradebe. In 2016, I reviewed the Part 70 (Title V) Renewal for Tradebe.

As you requested in your voicemail, here is a link to the recently issued Part 70 (Title V) Renewal No. 089-35879-00345 for Tradebe Treatment and Recycling LLC (issued October 31, 2016):
HTTP://PERMITS.AIR.IDEM.IN.GOV/35879F.PDF

In October 2016, IDEM OAQ was contacted by Mr. Jae Lee of EPA Region 5 Hazardous Waste/RCRA Permits with questions about the Solids Distillation System (SDS) at Tradebe. Jae indicated that a person (or lobbyist) representing air pollution control device companies contacted him wanting to discuss the SDS at Tradebe. The person that contacted EPA was likely David Case of the Environmental Technology Council, who had sent the following letter to EPA OECA that is available online at the following internet site: http://etc.org/media/7229/ETC-Letter-to-Cynthia-Giles-re-TDUs.pdf

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Prior to the Part 70 (Title V) Renewal No. 089-35879-00345, IDEM OAQ had also issued a Significant Permit Modification No. 089-34503-00345 on March 24, 2015, which can be found at the following link:
http://permits.air.idem.in.gov/34503F.PDF

In Significant Permit Modification No. 089-34503-00345, Addendum to the Technical Support Document (ATSD) (See Adobe pdf pages 395 through 505), IDEM OAQ responded to a public notice comment submitted by David Case of the Environmental Technology Council (ETC). In the comment response (see Adobe pdf pages 403 through 405), IDEM OAQ explained why the Solids Distillation System (SDS) is not considered a "hazardous waste combustor" or a "hazardous waste incinerator". This comment response was provided to and reviewed by EPA Region 5 prior to issuing the permit final.

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Let me know if you need anything else or would like to further discuss any issues over email/telephone.

Thank you.

Nathan Bell
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